

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/GB2004/005001

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 C12P19/62 C12P19/60 C12N15/52 C07H17/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 C12P C12N C07H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, CHEM ABS Data, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	M. SUZUKI ET AL.: "Biological glycosidation of macrolide aglycones I. Isolation and characterization of 5-O-mycaminosyl narbonolide and 9-dihydro-5-O-mycaminosyl narbonolide" J. ANTIBIOT., vol. XXIX, 1976, pages 1203-1208, XP009045970 page 1206 -----	20,22-26
X	S. RENGARAJU ET AL.: SCI. REPORTS OF MEIJI SEIKA KAISHA, vol. 24, 1985, pages 52-54, XP009045973 the whole document -----	20,22-26
X	US 3 598 805 A (PETER HADLEY JONES) 10 August 1971 (1971-08-10) the whole document -----	20,22-26
		-/-

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

\* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance  
"E" earlier document but published on or after the international filing date  
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  
"O" document referring to an oral disclosure, use, exhibition or other means  
"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

25 April 2005

Date of mailing of the international search report

17.06.05

Name and mailing address of the ISA

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PCT/GB2004/005001

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01/79520 A (BIOTICA TECHNOLOGY LIMITED; LEADLAY, PETER, FRANCIS; STAUNTON, JAMES;) 25 October 2001 (2001-10-25) cited in the application the whole document	1-6, 10-26
Y	-----	1-6, 10-19
X	EP 1 024 145 A (PFIZER PRODUCTS INC) 2 August 2000 (2000-08-02) examples 14,20	21-26
X	P.H. JONES ET AL.: "Chemical modifications of erythromycin antibiotics II. Synthesis of 4'-hydroxyerythromycin A" ANTIMICROB. AGENTS CHEMOTHER., 1969, pages 123-130, XP009045968 the whole document	20,22-26
Y	----- L. ZHAO ET AL.: "Engineering a methymycin/ pikromycin-calicheamicin hybrid: two new macrolides carrying a designed sugar moiety" J. AM. CHEM. SOC., vol. 121, 1999, pages 9881-9882, XP002210927 the whole document	1-6, 10-19
A	US 6 521 406 B1 (BALTZ RICHARD H ET AL) 18 February 2003 (2003-02-18)	-----
A	WO 99/05283 A (HOECHST MARION ROUSSEL; FROMENTIN, CLAUDE; MICHEL, JEAN-MARC; RAYNAL,) 4 February 1999 (1999-02-04)	-----
A	N. BATE ET AL.: "Thy mycarose biosynthetic genes of Streptomyces fradiae, producer of tylasin" MICROBIOLOGY, vol. 146, 2000, pages 139-146, XP002284343	-----

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## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3.  Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1.  As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
  
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3.  As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1 (partially), 2-6, 10-26 (partially)

Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1 (partially), 2-6, 10-26 (partially)

A gene cassette for the glycosylation of an aglycone by a mycaminose; a process for the preparation of erythromycins and azithromycins containing a mycaminose by use of the gene cassette; erythromycins and azithromycins comprising a 5-mycaminose sugar; erythromycin and azithromycin precursors (aglycones, see claims 20, 21 R15 = H)

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2. claims: 1 (partially), 7-9, 10-26 (partially)

A gene cassette for the glycosylation of an aglycone by an angolosamine; a process for the preparation of erythromycins and azithromycins containing an angolosamine by use of the gene cassette; erythromycins and azithromycins comprising a 5-angolosamine sugar

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB2004/005001

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 3598805	A	10-08-1971	NONE		
WO 0179520	A	25-10-2001	AU 4858801 A CA 2405958 A1 EP 1278881 A1 WO 0179520 A1 JP 2003530857 T US 2003203425 A1		30-10-2001 25-10-2001 29-01-2003 25-10-2001 21-10-2003 30-10-2003
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